

Marine Life Protection Act Initiative



Habitat Evaluations of Round 2 NCRSG Draft MPA Proposals for the North Coast Study Region

Presentation to the MLPA Blue Ribbon Task Force
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Notes on Round 2 Evaluations



- **No high protection MPAs recommended in any proposal**, thus evaluations at high protection omitted from all evaluation materials
- All proposals **include undefined, tribal, consumptive uses in some MPAs**, however insufficient information provided to allow assignment of level of protection for uses
 - MPAs proposed to allow **only** tribal, consumptive uses: Assigned an "undetermined" level of protection
 - All other MPAs, including MPAs proposed to allow undefined, tribal, consumptive uses **and** other defined uses: Assigned level of protection based on defined uses only
 - No very high protection SMRs propose consumptive uses (including tribal consumptive uses) in Round 2



Notes on Round 2 Evaluations

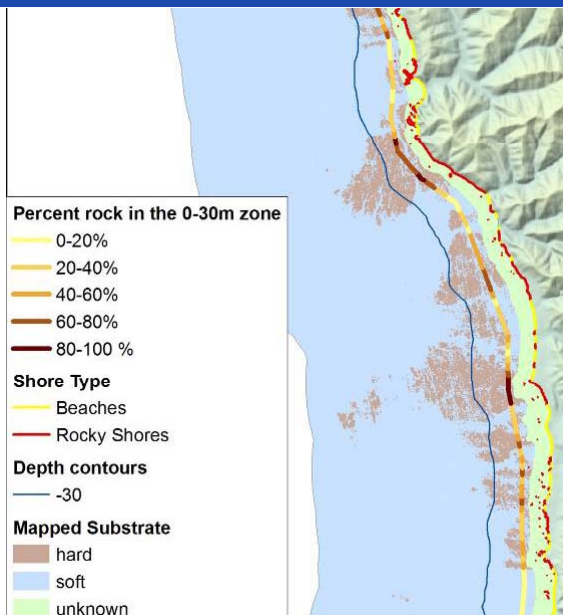
- Recent **revisions to the 0-30 meter (m) proxy line** are reflected in evaluation results
 - Replication in one MPA was altered by the revisions: Vizcaino SMCA in Sapphire 2 lost one replicate of 0-30m rock as measured by revised proxy line compared to original proxy line
- MPAs must span the **entire** 0-30 meter depth zone to replicate habitats in that zone (0-30m rock, 0-30m soft bottom, kelp)
 - Not new guidance, however application has become more relevant due to numerous inshore-offshore MPA clusters
 - Further information with an example provided in replication section of this presentation



Updates to Habitat Data

Revisions to nearshore proxy line:

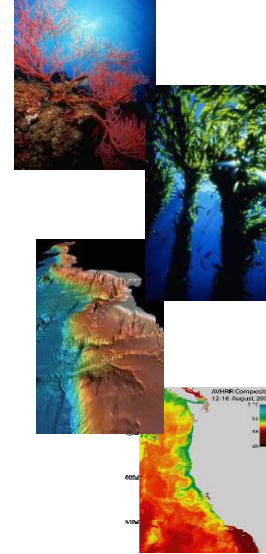
- New proxy line classifies each stretch of coast based on proportion of rock and soft bottom in 0-30m zone
- Finer divisions in the line (1/10th minute of latitude)
- Improved estimation of substrate in unmapped nearshore zone





MLPA Goals*: Habitats

1. To protect the natural diversity and function of **marine ecosystems**.
2. To help sustain and restore **marine life populations**.
3. To improve **recreational, educational, and study opportunities** in areas with minimal human disturbance.
4. To protect representative and unique **marine life habitats**.
5. Clear objectives, effective management, adequate enforcement, sound science.
6. To ensure that MPAs are designed and managed as a **network**.

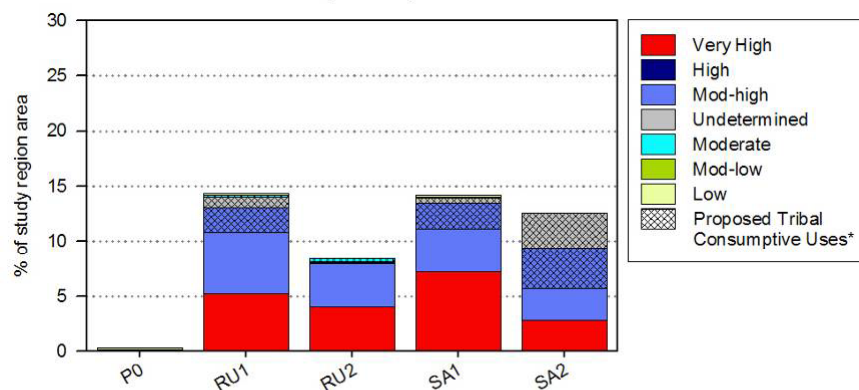


* Note that this language paraphrases the MLPA goals



Round 2 Draft Proposals by Level of Protection

Comparison of Existing MPAs (Proposal 0) and Round 2 Draft MPA Proposals by Level of Protection



* In round two, MPAs that proposed to allow only tribal consumptive uses were assigned an "undetermined" level of protection. All other MPAs, including MPAs that proposed undefined tribal consumptive uses and other uses, were assigned levels of protection based on defined uses.



Habitat Protection Guidelines



Every 'key' marine habitat should be represented in the MPA network to protect the diversity of species that live in different habitats and those that move among different habitats over their lifetime.



'Key' marine habitats should be replicated in multiple MPAs across large environmental and geographic gradients to protect the greater diversity of species and communities that occur across such gradients, and to protect species from local year-to-year fluctuations in larval production and recruitment.



At least three to five replicate MPAs should be designed for each habitat type within a biogeographical region to provide analytical power for management comparisons and to buffer against catastrophic loss of an MPA.



Evaluation: Habitats

Key Questions for Each Draft MPA Proposal

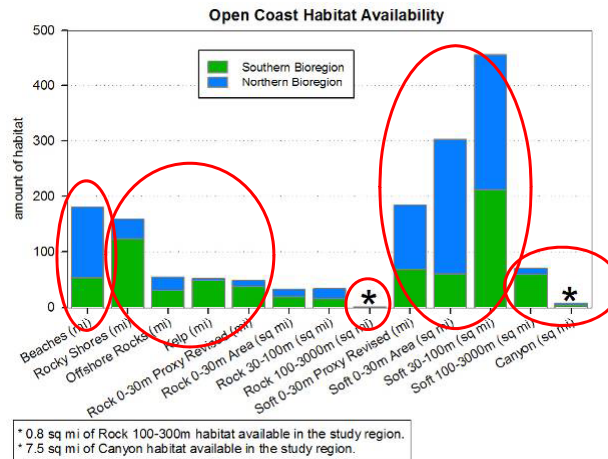
1. How well are key habitat types represented in draft MPA proposals?
2. What are the proposed levels of protection for these habitat types?
3. How well are habitats and levels of protection distributed across the study region?



Habitat Availability and Spacing

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- Nearshore rocky habitats and kelp are less abundant in northern bioregion
- >100 meter depth habitats are relatively rare across region, occurring mostly in canyons and southern bioregion
- Soft bottom habitats are especially abundant in northern bioregion



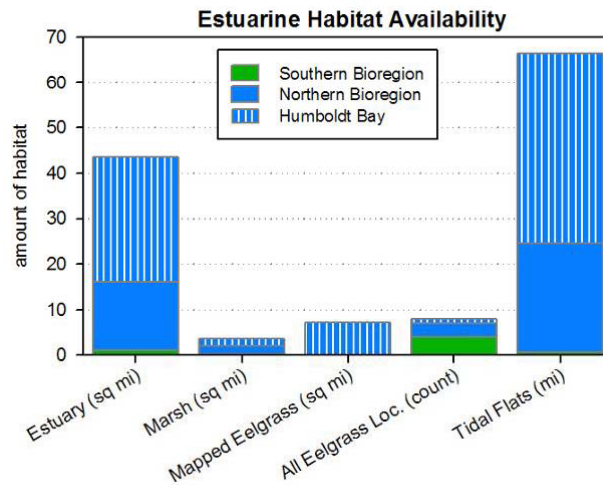
Note: the 0-30m proxy line has been revised since Round 2 draft MPA proposals were developed



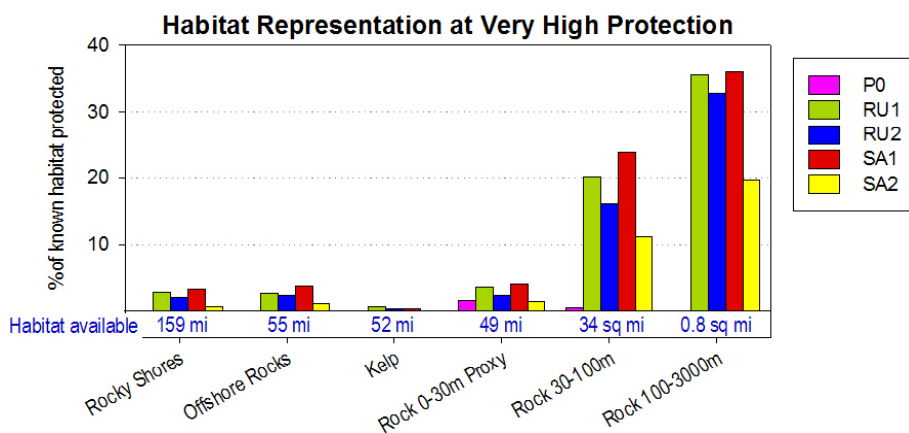
Results: Habitat Availability

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- Northern bioregion contains majority of estuarine habitats:
98% of estuarine area
96% of marsh area
99% of tidal flats
- Humboldt Bay contains 62% of all estuarine area and 100% of mapped eelgrass in MLPA North Coast Study Region
- Eelgrass is known to exist in 8 estuaries, 4 in the northern and 4 in the southern bioregions

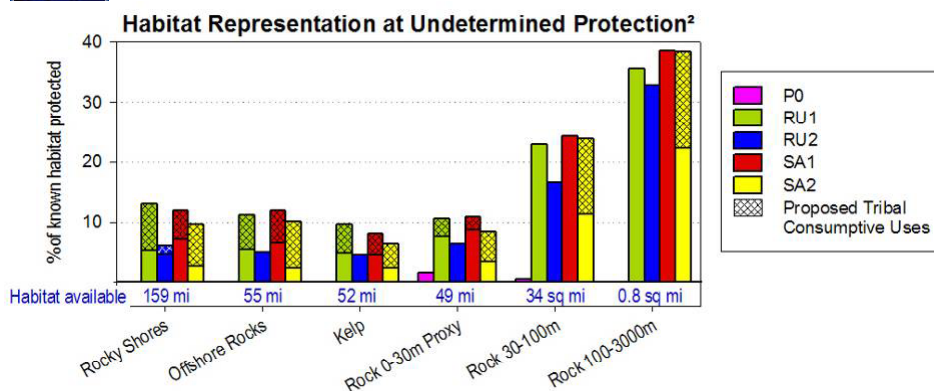


Representation: Rocky Habitats



- Less than 5% of available shoreline and nearshore rocky habitats included in very high protection MPAs across all proposals

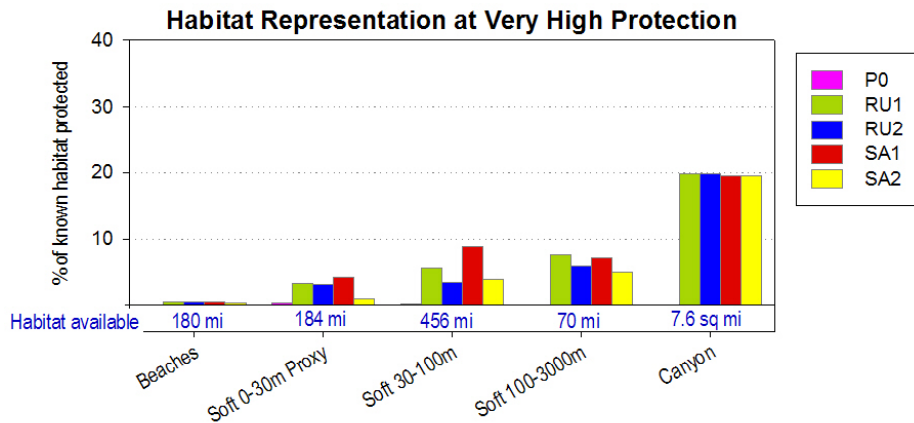
Representation: Rocky Habitats



- RU1 and SA1 include highest percentage of most rocky habitats, followed closely by SA2
- RU2 includes lowest percentage of all rocky habitats

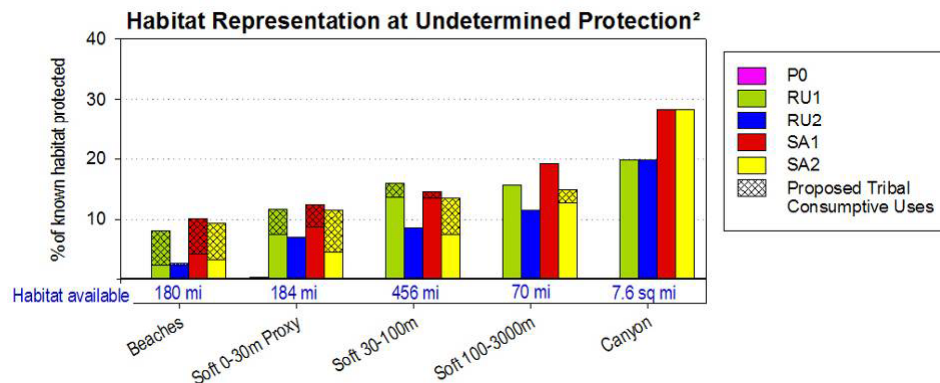
² Evaluations at undetermined protection include MPAs with undetermined protection, plus all MPAs at moderate-high protection and above

Representation: Soft Bottom Habitats



- Less than 10% of available soft-bottom habitats included in very high protection MPAs across all proposals, with exception of canyon habitat

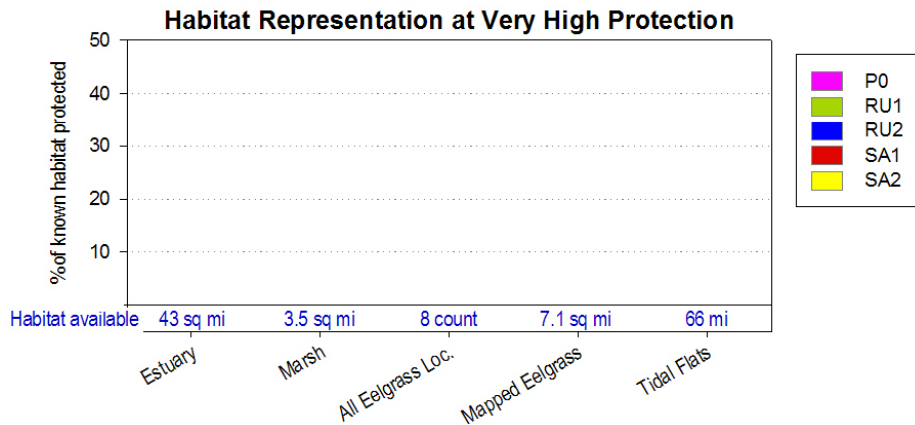
Representation: Soft Bottom Habitats



- RU1 and SA1 include higher percentage of most soft-bottom habitats than other proposals, followed closely by SA2
- RU2 includes lowest percentage of most soft-bottom habitats

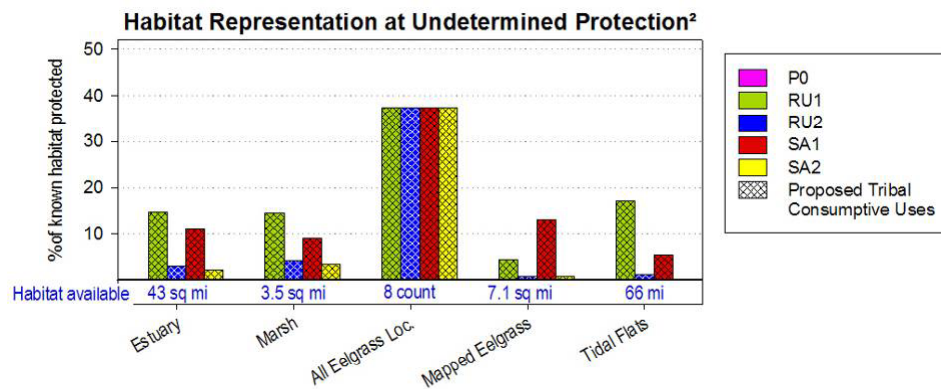
² Evaluations at undetermined protection include MPAs with undetermined protection, plus all MPAs at moderate-high protection and above.

Representation: Estuarine Habitats



- No estuarine habitats included at very high protection in any proposal

Representation: Estuarine Habitats

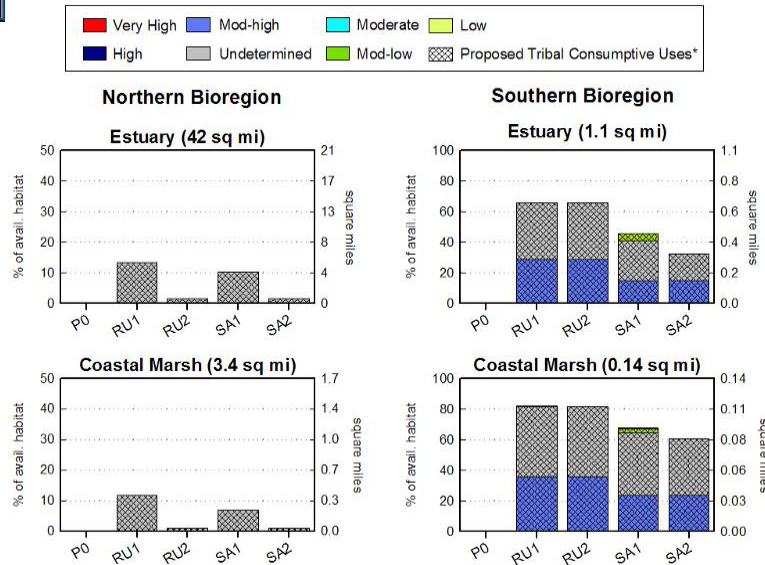


- Tribal consumptive uses allowed in all estuarine MPAs, all proposals
- RU1 and SA1 include higher percentage of most estuarine habitats than other proposals

² Evaluations at undetermined protection include MPAs with undetermined protection, plus all MPAs at moderate-high protection and above.



Representation: Estuarine Habitats



Results: Habitat Representation

Summary



Low percentages of shoreline, nearshore, and estuarine habitats included in very high protection MPAs across all proposals



On average, SA1 included largest proportion of open coast habitats in MPAs and RU2 smallest proportion, regardless of protection level



On average RU1 included largest proportion of estuarine habitats in MPAs



Ranking of proposals by average representation across all habitats:







At moderate-high protection: SA1 > RU1 > SA2 > RU2

At undetermined protection: same ranking



Methods: Habitat Replication

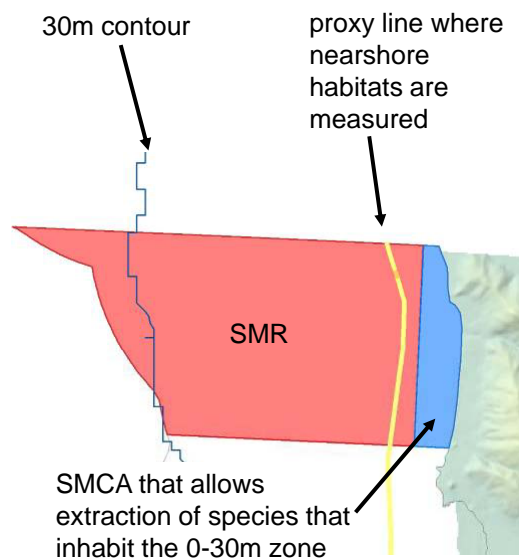
Guidelines for Replication

-  3-5 replicates of habitat per biogeographic region (i.e., from Point Conception to the California-Oregon border)
-  SAT recommends at least 1 replicate of each habitat in each of the two north coast bioregions, if possible
-  MPA or cluster must meet minimum size guidelines (9 square miles)
-  Habitat must meet threshold identified to encompass 90% of biodiversity in that habitat type
-  **To replicate nearshore habitats, entire 0-30m zone must be included in MPA or cluster**
-  Estuarine MPAs do not have to meet size guidelines but must contain at least 0.12 square miles of estuarine habitat



Replicating Nearshore Habitats

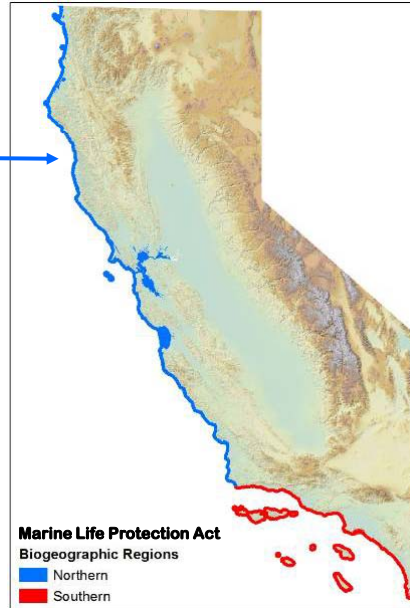
- **To replicate nearshore habitats, entire 0-30m zone must be included in MPA or cluster**
- **Activities in the inshore MPA may impact species in 0-30m zone**
- **Replication of 0-30m habitats only at a level of protection threshold that includes both inshore and offshore MPAs**





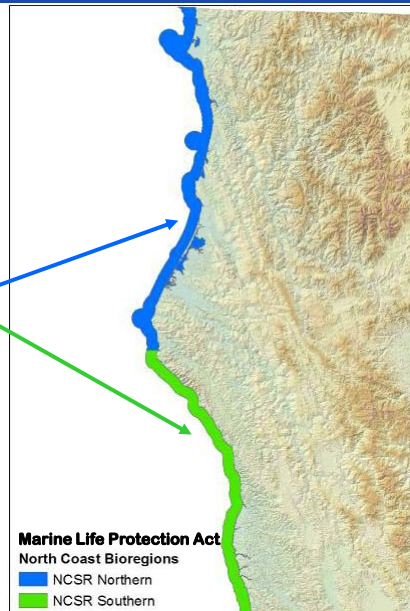
Replication Guidelines

- Replication guidelines in the *California Marine Life Protection Act Master Plan for Marine Protected Areas* call for 3-5 replicates within the MLPA **biogeographic region**



Replication Guidelines

- Replication guidelines in the *Master Plan* call for 3-5 replicates within the MLPA **biogeographic region**
- SAT additionally recommends at least 1 replicate of each habitat per **bioregion**
- Two **bioregions** in the north coast study region



NCSR = MLPA North Coast Study Region

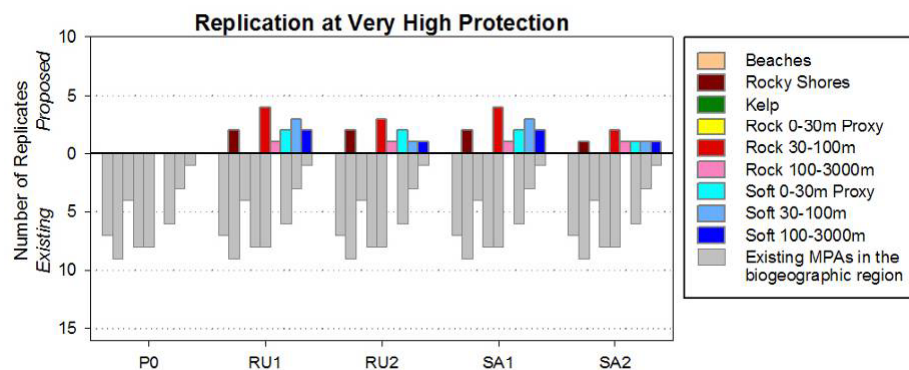


Replication Guidelines

- Replication guidelines in the *Master Plan* call for 3-5 replicates within the **biogeographic region**
- The SAT additionally recommends at least 1 replicate of each habitat per **bioregion**
- Two **bioregions** in the north coast study region
- No strong biological break at Point Arena, thus **southern bioregion of NCSR extends into northern half of MLPA North Central Coast Study Region**

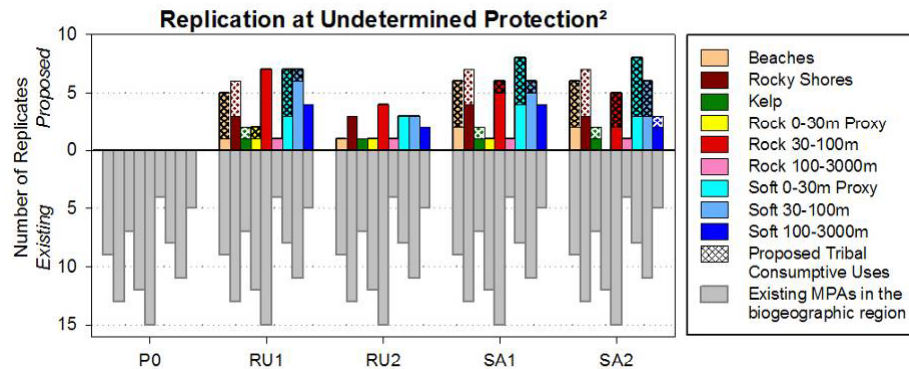


Replication: Very High Protection



- For most habitats, 3-5 replicates already exist elsewhere in biogeographic region (north central and central coast study regions)
- None of proposals replicate beaches, 0-30m rock, or kelp at very high protection, but all proposals contain at least 1, and up to 4, replicates of other habitats

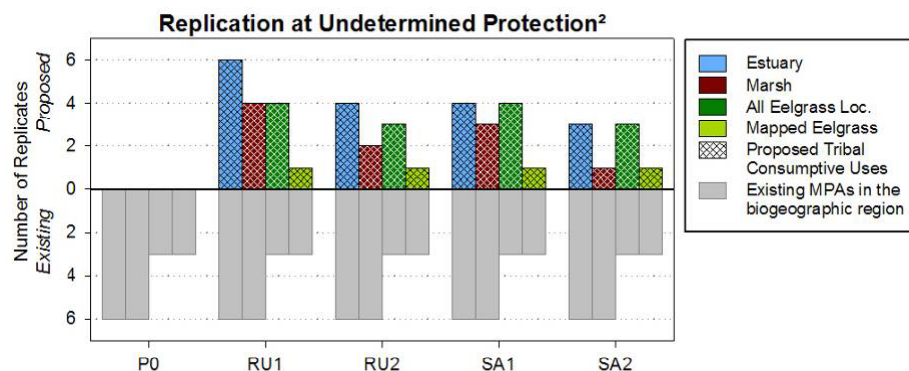
Replication: Undetermined Protection



- Many replicates of shoreline and soft bottom habitats allow undefined consumptive tribal uses in proposals RU1, SA1, and SA2
- All proposals include at least 1, and up to 8, replicates of each habitat with exception of 0-30m rock in SA2

² Evaluations at undetermined protection include MPAs with undetermined protection, plus all MPAs at moderate-high protection and above.

Replication: Estuarine Habitats



- All estuarine MPAs across all proposals allow undefined, tribal, consumptive uses
- RU1 includes largest number of replicates of most estuarine habitats, followed by SA1

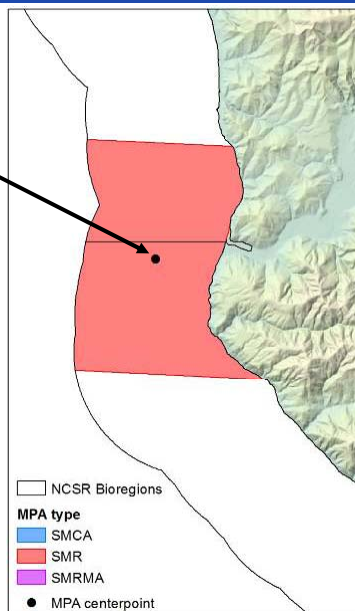
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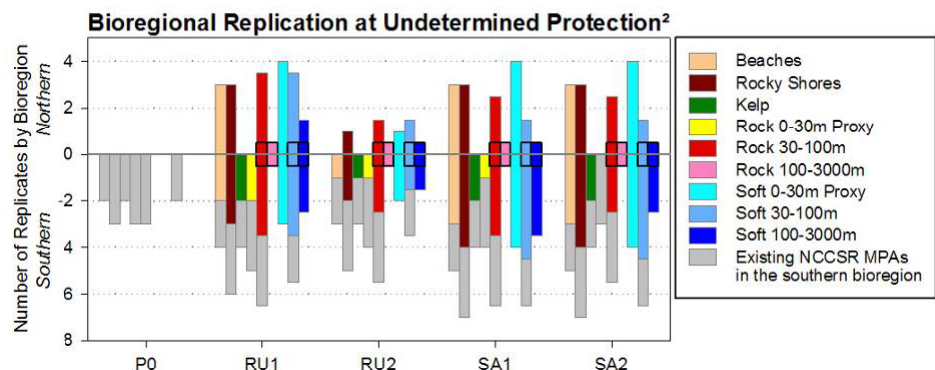
Habitat Replication and Bioregions

For an MPA that falls on bioregional divide:

- In Round 1 analyses MPA **centerpoint** used to determine which bioregion to assign habitat replicates
- This division of replicates led to artifacts in the bioregional replication analyses
- In Round 2 analyses habitat replicates **are divided** across the two bioregions (1/2 replicate in each)



Bioregional Replication

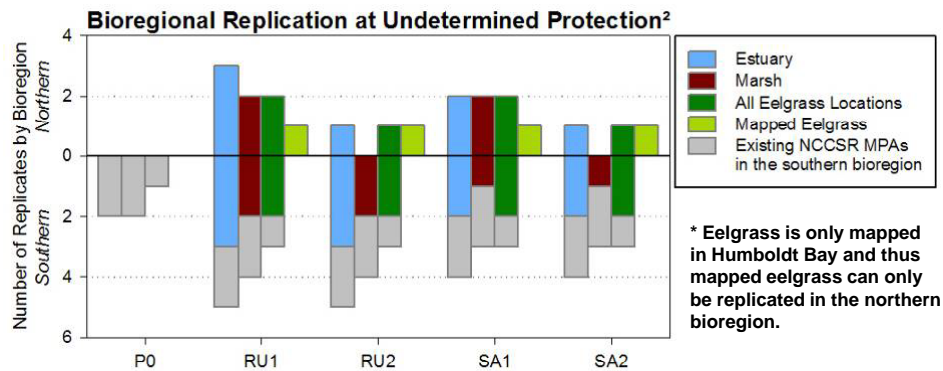


- None of the proposals replicate kelp or 0-30m rock in northern bioregion
- Only RU1 replicates 100-3000m soft bottom north of the Punta Gorda area
- RU2 does not replicate beaches and includes only one replicate of rocky shores in northern bioregion

² Evaluations at undetermined protection include MPAs with undetermined protection, plus all MPAs at moderate-high protection and above.



Bioregional Replication



- RU1 includes largest number of replicates of estuarine habitats
- All proposals include 1 replicate of mapped eelgrass in Humboldt Bay
- RU2 and SA2 do not replicate marsh habitat in northern bioregion where most abundant



Results: Habitat Replication

Summary

- All habitats already replicated in at least 3-5 MPAs at or above mod-high protection elsewhere in biogeographic region (north central coast or central coast)
- On average, SA1 and RU1 include largest number of replicates of all habitats, regardless of protection level
- None of the proposals replicate kelp or 0-30m rock in northern bioregion at or above mod-high
- None of the proposals replicate any estuarine habitats at very high protection, but RU1 includes largest number of estuarine habitat replicates at undetermined protection, followed by SA1
- Ranking of proposals for replication across all habitats:
 - At mod-high protection: SA1 > RU1 > SA2 > RU2
 - At undetermined protection: RU1 > SA1 > SA2 > RU2



MPA Clustering for Replication

- Request received via public comment that closely spaced MPAs near Punta Gorda be "clustered" for assessment of habitat replication
- SAT decided not to "cluster" MPAs separated by several miles, but to note the concentration of MPAs in this region and the habitats they encompass
- In three proposals (RU1, SA1, and SA2), closely spaced MPAs near Punta Gorda would, if combined, achieve replication of 0-30m rock habitat; this habitat not replicated by any single MPA in area although Petrolia shape comes VERY close in RU1, SA1, and SA2

